ABSTRACT OF THE DISCLOSURE

In a fuel supply system for an internal combustion engine, there is provided a technology capable of keeping the pressure of fuel constant. Fuel pumps are provided in which the pressure of fuel to be discharged therefrom can be adjusted due to an increase and a decrease in the amount of the fuel discharged, and the discharge of fuel therefrom can be stopped. Fuel injection valves serve as a fuel pressure reducing device that reduces the fuel pressure raised by the fuel pumps. A fuel pressure adjusting section changes the number of operations of the fuel pumps and the amounts of fuel discharged from the fuel pumps in such a manner that an average value of the fuel pressure from after the fuel pressure has once been raised until the fuel pressure is again raised becomes substantially constant before and after the number of operations of said fuel pumps is changed.